

**Amendments to the Specification:**

Page 4, 1<sup>st</sup> paragraph, please amend as follows:

In this case, the object can be attained when said combustion mode may make a difference in heat recovered from the engine due to the alternation thereof to a power amount outputted from said power generator as heat/power ratio, alternatively, said combustion mode is any of a spark ignition combustion mode, ~~an ignition time retard combustion mode,~~ a retard of spark ignition combustion mode, and a ~~premixing compression ignition combustion mode.~~ homogeneous charge compression and ignition combustion mode. In the latter case, the object can be attained, in the case where said combustion mode of any of said plurality of the engines includes at least said ~~premixing compression ignition combustion mode~~ homogeneous charge compression and ignition combustion mode, when the engine is switched to said ~~premixing compression ignition combustion mode,~~ homogeneous charge compression and ignition combustion mode, the switching is made under the condition that the combustion mode before switching must be said spark ignition combustion mode.

Page 4, line 16, please amend the paragraph as follows:

Also at least one control of a number of engines to be driven and a combustion mode of said engine is executed with the consideration that said engine including the ~~premixing compression ignition combustion mode~~ homogeneous charge compression and ignition combustion mode may be difficult to be driven at said ~~premixing compression ignition combustion mode.~~ homogeneous charge compression and ignition combustion mode.

Page 9, line 15, please amend the paragraph as follows:

In this embodiment, respective engines 1 to 4 are rotatably operated each in a plurality of different operational modes, respectively to drive the power generators 5 to 8. This is a characteristic of the present invention. The

operation modes in this embodiment are three modes described herein below comprising a ~~premixing compression ignition combustion mode~~ homogeneous charge compression and ignition combustion mode MB, a spark ignition combustion mode MC, and an ~~ignition time retard combustion mode~~ a retard of spark ignition combustion mode MD.

~~(Premixing Compression Ignition Combustion Mode MB)~~ (Homogeneous Charge Compression And Ignition Combustion Mode MB)

Page 10, line 5, please amend the paragraph as follows:

This mode is a combustion mode in a manner that a mixed gas comprising fuel air is supplied to a cylinder, compressed by a piston, and then ignited by electric spark. A general gasoline engine is applicable. Since the combustion temperature is relatively high, the heat value of the exhaust gas becomes large, but by utilizing a cogeneration system, the efficiency can be improved (80% or more). ~~(Ignition Time Retard Combustion Mode MD)~~ (Retard of Spark Ignition Combustion Mode MD)

Page 11, line 5, please amend the paragraph as follows:

In FIG. 3, when the heat/power ratio H/P is controlled to be a value between the heat/power ratio b of the ~~premixing compression ignition combustion mode~~ homogeneous charge compression and ignition combustion mode MB and the heat/power ratio c of the spark ignition combustion mode MC, the heat/power ratio H/P is controlled by proportionally distributing a number of the engine operated at the ~~premixing compression ignition combustion mode~~ homogeneous charge compression and ignition combustion mode MB and that of the engine operated at the spark ignition combustion mode MC.

Page 11, line13, please amend the paragraph as follows:

When the heat/power ratio H/P is controlled to be a value between the heat/power ratio c of the spark ignition combustion mode MC, and the heat/power ratio d of the ~~ignition time retard combustion mode~~ retard of spark

ignition combustion mode MD, the heat/power ratio H/P is controlled by proportionally distributing a number of the engine operated at the spark ignition combustion mode MC and that of the engine operated at ~~ignition time retard combustion mode~~ retard of spark ignition combustion mode MD.

Page 11, line 20, please amend the paragraph as follows:

At this time, the heat/power ratio H/P is also controlled by an amount of the ignition time retard of the engine operated at the ~~ignition time retard combustion mode~~ retard of spark ignition combustion mode MD.

Page 11, line 23, please amend the paragraph as follows:

The engine whose operation mode can be changed to the operation mode other than the spark ignition combustion mode MC can be realized as follows: Since the ~~ignition time retard combustion mode~~ retard of spark ignition combustion mode MD is not required to be specifically described, because this mode can be realized only by retarding the ignition time in the spark ignition combustion mode MC.

Page 12, line 2, please amend the paragraph as follows:

The change into the ~~premixing compression ignition combustion mode~~ homogeneous charge compression and ignition combustion mode MB can be realized as follows, e.g. by the application of a technique so called VTEC (Variable Valve Timing and Lift Electronic Control) that controls a timing of opening or closing the intake and exhaust valves and the lifting amounts, or a technique that a time of the injecting fuel and the injection amount of the fuel are precisely controlled.

Page 12, line 10, please amend the paragraph as follows:

Specifically, at the time of setting the mode at the ~~premixing compression ignition combustion mode~~ homogeneous charge compression and ignition combustion mode MB, the mode is once changed into the spark ignition

combustion mode MC, and then a compression ratio may be increased, fuel injection may be conducted several times at one cycle, or the residual amount of the exhaust gas in the pre-exhaust cycle may be controlled by changing a timing of opening or closing the intake and exhaust valves and the lifting amounts, making it easy to realize the ~~premixing-compression-ignition-combustion-mode~~ homogeneous charge compression and ignition combustion mode MB.

Page 12, line 19, please amend the paragraph as follows:

FIG. 4 is a drawing in which heat/power ratio H/P required for operating the engines shown in FIG. 2 according to each of the operation modes corresponding to the power load in each time zone within one day shown in FIG. 11, and corresponding to the heat load in each time zone within one day shown in FIG. 12 is approximately expressed as a liner line. In this figure, the regions of from the operation ~~mode~~ area B to the operation ~~mode~~ area C, and of the operation ~~mode~~ area D are the regions where the heat/power ratio can be controlled utilizing the engines having a specification as in FIG. 2, while keeping the total efficiency of 80%.

Page 13, line 4, please amend the paragraph as follows:

Here, the operation ~~mode~~ area B is a ~~mode~~ an area in which a number of the engines operated at the ~~premixing-compression-ignition-combustion-mode~~ homogeneous charge compression and ignition combustion mode MB is the most, the operation ~~mode~~ area C is a ~~mode~~ an area in which a number of the engines operated at the spark ignition combustion mode MC is the most, and the area D is an area in which a number of the engines operated at the ~~ignition-time-retard combustion-mode~~ retard of spark ignition combustion mode MD is the most.

Page 14, line 9, please amend the paragraph as follows:

These modes are the ~~premixing-compression-ignition-combustion-mode~~ homogeneous charge compression and ignition combustion mode MB, the spark

ignition combustion mode MC, and the ~~ignition time retard combustion mode~~  
retard of spark ignition combustion mode MD.

Page 14, line 12, please amend the paragraph as follows:

As shown in FIG. 2, the heat/power ratio at the ~~premixing compression~~  
~~ignition combustion mode~~ homogeneous charge compression and ignition  
combustion mode MB is assumed to be "b", the heat/power ratio at the spark  
ignition combustion mode MC to be "c", and the heat/power ratio at the ~~ignition~~  
~~time retard combustion mode~~ retard of spark ignition combustion mode MD to  
be "d", where  $b < c < d$ .

Page 14, line 18, please amend the paragraph as follows:

When the operation mode is switched, the mode before being switched to  
the ~~premixing compression ignition combustion mode~~ homogeneous charge  
compression and ignition combustion mode MB must be the heat/power ratio at  
the spark ignition combustion mode MC.

Page 15, line 1, please amend the paragraph as follows:

Subsequently, it is examined whether or not the demand household  
heat/power ratio  $e/f$  is between the operation ~~mode R~~ area B and the operation  
~~mode~~ area D, i.e., whether or not  $b < e/f < d$  stands up (s1002). At this time. As  
shown in FIG. 2, the heat/power ratio  $b = 0.75$  0.78 and the heat/power ratio  $d$   
 $= 7.00$ .

Page 15, line 6, please amend the paragraph as follows:

When  $b < e/f < d$  stands up, a number  $g$  of the engines/power generators is  
decided (s1003), and then it is examined whether or not the demand household  
heat/power ratio  $e/f$  is between the rated heat/power ratio of the operation mode  
~~E~~ MB and the operation mode ~~D~~ MC (s1004). Specifically, whether or not  $b < e/f < c$   
stand up is examined. At this time, the heat/power ratio  $c$  is 1.67 as shown in  
FIG. 2.

Page 15, line 13, please amend the paragraph as follows:

If  $b < e/f < c$  stand up, it is judged that the engines/power generators at this time should be operated at any of the heat/power ratios of the operation mode  $\text{E MB}$  and the operation mode  $\text{D MC}$ . Thereafter, amongst the number  $g$  of the total operating engines, a number  $Eg$  of the engines operated at the operation mode  $\text{E MB}$  and a number  $Dg$  of the engines operated at the operation mode  $\text{MC}$  are decided according to the following formulae (s1005). Thereafter, the step is returned to be "start".

$$Eg = (efg - e) / f(e - b) \quad \underline{Eg = (fc - e)(b + 1) / \{a(c - b)\}}$$

$$Dg = (e - efg) / f(e - b) \quad \underline{Dg = (e - fb)(c + 1) / \{a(c - b)\}}$$

Page 15, line 23, please amend the paragraph as follows:

Subsequently, if  $b < e/f < c$  does not stand up, and it is judged that the demand household heat/power ratio  $e/f$  is deviated from the range between the rated heat/power ratio of the operation mode  $\text{E MB}$  and the operation mode  $\text{D MC}$ , this is judged to be within the rated heat/power ratio of the operation mode  $\text{D MC}$  and the operation mode  $\text{C MD}$ . Thereafter, amongst the number  $g$  of the total operating engines, a number  $Dg$  of the engines operated at the operation mode  $\text{D MC}$  and a number  $Cg$  of the engines operated at the operation mode  $\text{C MD}$  are decided according to the following formulae (s1006). Thereafter, the step is returned to be "start".

$$Dg = (dfg - e) / f(d - e) \quad \underline{Dg = (fd - e)(c + 1) / \{a(d - c)\}}$$

$$Cg = (e - efg) / f(d - e) \quad \underline{Cg = (e - fc)(d + 1) / \{a(d - c)\}}$$

Page 16, line 10, please amend the paragraph as follows:

At this time, as described above, in addition to or alternative to the control by distributing a number of the engine operated at the operation mode  $\text{D MC}$  and that of the engine operated at the operation mode  $\text{C MD}$ , the control may be made by a amount of the amount of the ignition time retard of the engine amongst the operation mode  $\text{C MD}$ .

Page 16, line 16, please amend the paragraph as follows:

On the other hand, if the result is NO in the step S1002, i.e., when the demand household heat/power ratio  $e/f$  is deviated from the range between the rated heat/power ratio of the operation mode  $\text{E MB}$  and the operation mode  $\text{C MD}$ , then whether or the demand household heat/power ratio  $e/f$  is lower than the heat/power ratio  $b$  of the operation mode  $\text{B MB}$  (s1007).

Page 16, line 22, please amend the paragraph as follows:

If the result is YES, i.e.,  $b > e/f$ , since the heat/power ratio at this time is lower than that of the operation mode whose rated heat/power ratio is lowest amongst the engine specification, all of the engines/power generators are switched to the operation mode  $\text{E MB}$ , and a number  $E_g$  of the operating engine at this time is decided so as to output the demand household power load  $f$  by proportional distribution of the full output  $a$ , the demand household power load  $f$ , and the heat/power ratio  $b$ .

Page 17, line 12, please amend the paragraph as follows:

On the other hand, if it is judged in the treatment s 1007 to be NO, i.e., the demand household heat/power ratio  $e/f$  is larger than the heat/power ratio  $b$  of the operation mode  $\text{B MB}$ . At this time. the demand household heat/power ratio  $e/f$  is larger than the heat/power ratio  $c$  of the operation mode  $\text{C MD}$ .

Page 17, line 17, please amend the paragraph as follows:

In the case of this embodiment, as shown in FIG. 3, such a situation is difficult to be arisen, but in this case, all of the engines/power generators are operated at the operation mode  $\text{C MD}$ , and a number  $C_g$  of the operating engine at this time is decided so as to output of the demand household power load  $e$  by proportional distribution of the product of the full output  $a$  by the heat/power ratio  $d$ , the demand household power load  $e$ , and the heat/power ratio  $d$  (s1009).

Page 19, line 13, please amend the paragraph as follows:

In the case of this embodiment, the engines/power generators cannot be sometime operated at the operation mode  $\text{E MB}$  as in the case of starting up the engine, or in the case where an external temperature is too low. In this case, the engines/power generators are operated according to the flowchart shown in FIG. 8.

Page 19, line 19, please amend the paragraph as follows:

The treatments shown in FIG. 8 are also executed by a microcomputer, which is the control unit 24, according to a program stored in the microcomputer. When the treatments are started, first a number h of the engines, which can be operated at the operation mode  $\text{E MB}$ , is understood in a treatment s1201. The judgment whether or not the engine can be operated at the operation mode  $\text{E MB}$  is determined the state of warming up the engine by the temperature of the wall surface of the combustion chamber or such.

Page 20, line 8, please amend the paragraph as follows:

Subsequently, the number "h" of the engines, which can be operated at the operation mode  $\text{E MB}$  is inputted, and then the demand household heat load e and the power load f are inputted in the treatment 1202. Thereafter, in the treatment 1203, whether or not the demand household heat/power ratio e/f is within the rated heat/power ratios between the operation mode  $\text{E MB}$  and the operation mode  $\text{C MD}$  is judged.

Page 20, line 11, please amend the paragraph as follows:

If the result of the judgment in the treatment is "YES", whether or not the operation at the operation mode  $\text{E MB}$  is required is judged in the next treatment s1204. Then, if the operation at the operation mode  $\text{E MB}$  is judged to be required, the number "h" of the engines, which can be operated at the operation mode  $\text{E MB}$  is compared with the number  $(e - efg) / f (b - e) (fc -$



$e)(b+1)/\{a(c-b)\}$  of the engines required for operating at the operation mode  $E \underline{MB}$  in the next treatment s1204.

Page 20, line 17, please amend the paragraph as follows:

If the number  $(e-efg)/f(b-e) \ (fc-e)(b+1)/\{a(c-b)\}$  of the engines required for operating at the operation mode  $E \underline{MB}$  is larger than the number "h", in the next treatment s1207, control is made so that the amount of the power arisen from the fact that the engine or engines cannot be operated at the operation mode  $E \underline{MB}$  is compensated by increasing the number of the engines operated at the operation mode  $D \underline{MC}$ .

Page 20, line 24, please amend the paragraph as follows:

At this time, the number of the engine operated at the operation mode  $E \underline{MB}$  is decided as the number "h" of the engines, which can be operated at the operation mode  $E \underline{MB}$ . Also, the number of the engine operated at the operation mode  $D \underline{MC}$  is decided as an amount of the power obtained by subtracting the demand power load f from the amount of the power generated at the time of operating the h engines at the operation mode  $E \underline{MB}$ , i.e.,  $\{f-ah/(b+1)\}$ .

Page 21, line 12, please amend the paragraph as follows:

On the other hand, if the demand household heat/power ratio  $e/f$  is judged to be deviated from the rated heat/power ratio in the treatment s1203, then whether or not the operation at the operation mode  $E \underline{MB}$  is required is judged in the next treatment s1209. In this case, the condition is  $b > e/f$ .

Page 21, line 17, please amend the paragraph as follows:

If the result is "YES", then the number "h" of the engines, which can be operated at the operation mode  $E \underline{MB}$  is compared with the number  $\frac{(b+1)-a}{f(b+1)/a}$  of the engines operated at the operation mode  $E \underline{MB}$  required for the demand household power load f in the next treatment s1210.

Page 21, line 22, please amend the paragraph as follows:

If the “~~h~~” number of the engines, which can be operated at the operation mode ~~E~~ MB is larger than the number of the engines required, then the number of the engines operated at the operation mode ~~E~~ MB is decided in the next treatment s1211. On the other hand, if the number “~~h~~” of the engines, which can be operated at the operation mode ~~E~~ MB is smaller than the number of the engines required, then the amount of the demand household power load ~~f~~ which can not supplied from the engines operated at the operation mode ~~E~~ MB is compensated by increasing the number of the engines operated at the operation mode ~~D~~ MC.

Page 22, line 11, please amend the paragraph as follows:

On the other hand, in the treatment s1207 and the treatment s1212, the amount of the power load  ~~$\{f-ha/(b+1)\}$~~   $\{f-ah/(b+1)\}$ , which cannot be supplied by the operation of the engines operated at the operation mode ~~E~~ MB may be supplied from the power storage apparatus 28 or the commercial power source 23.